

Appln. No. 10/724,948

Docket No. GP-302434/GM2-0079

**REMARKS / ARGUMENTS****Status of Claims**

Claims 1-19 are pending in the application and stand rejected. Applicant herein provides clarifying remarks to traverse the rejections, leaving Claims 1-19 for consideration by the Examiner.

Applicant respectfully submits that the rejections under 35 U.S.C. §103(a), have been traversed, that no new matter has been entered, and that the application is in condition for allowance.

These accompanying remarks were not presented earlier because Applicant did not fully appreciate the nature of the Examiner's position until the Applicant was advised in more detail of the position by the final rejection, which introduced a new ground of rejection relating to the DUOCEL ALUMINUM FOAM reference.

**Rejections Under 35 U.S.C. §103(a)**

Claims 1-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Iwasa et al. (U.S. Patent No. 5,565,117, hereinafter Iwasa) in view of DUOCEL ALUMINUM FOAM (IDS submitted by Applicant, hereinafter DUOCEL).

Applicant traverses these rejections for the following reasons.

Applicant respectfully submits that the obviousness rejection based on the References is improper as the References *fail to teach or suggest each and every element of the instant invention in such a manner as to perform as the claimed invention performs*. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). The Examiner must meet the burden of establishing that all elements of the invention are taught or suggested in the prior art. MPEP §2143.03.

Additionally, the mere fact that references can be combined or modified does not render the resultant combination obvious *unless the prior art also suggests the desirability of the combination*. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir.

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1990) (emphasis added). Applicant respectfully submits that "to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant." *In re Werner Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000) (citing: *In re Dance*, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998); *In re Gordon*, 221 USPQ 1125, 1127 (Fed. Cir. 1984). *There must also be a reasonable expectation of success in modifying or combining the prior art*, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 USPQ 494, 496 (CCPA 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 USPQ2d 1016, 1023 (Fed. Cir. 1996) (emphasis added). And, there must be some degree of predictability in showing the reasonable expectation of success. *In re Rinehart*, 189 USPQ 143 (CCPA 1976); MPEP §2143.03.

Furthermore, Applicant respectfully submits that obviousness cannot be supported by a proposed modification that would *render the prior art invention being modified unsatisfactory for its intended purpose*. *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984); MPEP §2143.01. (Emphasis added).

I. Applicant submits that the prior art does not teach or suggest each and every element of the instant invention in such a manner as to perform as the claimed invention performs.

Specifically regarding Claims 5 and 18, which recite, inter alia,

"...wherein, after the pressure is applied, a final density of the filler material is greater than or equal to 70% *and less than 100%*."

In alleging obviousness of Claims 5 and 18, the Examiner remarks that it would have been obvious to have a high final density, since at high density, both the top and bottom workpieces are guaranteed to have a strong bond. Paper 08052005, page 3.

In respectful disagreement with the Examiner, it is not just the high density that is claimed, but the high density being *less than 100%* that is claimed.

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If one skilled in the art would be motivated to do what the Examiner suggests, then one skilled in the art would strive to reach 100% density, which is contrary to the claimed invention as clearly indicated by the conjunctive "and" in the claim language.

At Paragraph [0016] of the instant application, Applicant discusses the benefit of having a porous medium (less than 100% density) in the joint, which serves to provide a capillary action for a braze material to wick into the joint, thereby producing a high quality joint.

No where in the references does Applicant find a teaching or suggestion of each and every element of the claimed invention that are combined in such a manner as to perform as the claimed invention performs. Accordingly, Applicant submits that a *prima facie* case of obviousness has not been properly established.

Specifically regarding Claim 17, which recites, *inter alia*,

"An *automobile body* with a welded joint made by the method of claim 1."

In alleging obviousness of Claim 17, the Examiner remarks that DUOCEL teaches one of the applications to be performed on automobiles, and that DUOCEL discloses differences for the purpose of saving money compared to a solid aluminum filler (page 4, 1st column, 2nd column). Paper 08052005, pages 2-3.

In respectful disagreement with the Examiner, it is not enough to merely say that the DUOCEL aluminum foam *could be* used on an automobile, it is necessary for a showing of obviousness that the references teach or suggest the use of DUOCEL aluminum foam in a welded joint of an automobile body in such a manner as to perform as the claimed invention performs. That is, the references must teach or suggest an *automobile body with a welded joint made by the method of claim 1*, which includes the filler material in the weld joint.

At page 05 of DUOCEL, a list of applications is provided that includes a number of end products, including "race car deformable structures", which is the closest reference to an automobile body part that Applicant finds in DUOCEL. However, Applicant submits that where a reference teaches a part that is suitable for a race car deformable structure, that same reference does necessarily teach that the same part is suitable for use

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in a welded joint having two workpieces welded together with the filler material therebetween.

As such, Applicant submits that the references fall wholly short of teaching or suggesting the claimed filler material being used in a welded joint, and that the Examiner has not stated with specificity where such a teaching or suggestion may be found.

No where in the references does Applicant find a teaching or suggestion of each and every element of the claimed invention that are combined in such a manner as to perform as the claimed invention performs. Accordingly, Applicant submits that a prima facie case of obviousness has not been properly established.

II. Applicant submits that the prior art does not teach or suggest the desirability of combining the references, and does not teach or suggest a reasonable expectation of success in modifying or combining the prior art.

Claims 1 and 18, are directed to a method of joining workpieces using a filler material having a defined skeletal structure with porous regions defined by solidly connected ligaments, where the filler material is disposed at a gap between the workpieces to be joined.

Claim 14 is directed to a welded joint having the aforementioned filler material.

In alleging obviousness of Claims 1 and 14, the Examiner acknowledges that Iwasa fails to teach such a filler material, and looks to DUOCEL to cure this deficiency. Paper 08052005, page 2.

In applying DUOCEL, the Examiner remarks that one skilled in the art would be motivated to modify Iwasa in order to save cost. Paper 08052005, page 2.

Applicant respectfully disagrees.

As best understood by Applicant, Iwasa is directed to a method of resistance welding that uses a powdery mixture having a metal oxide for developing a thermite reaction at the joint due to contact resistance thereat. Iwasa, Column 2, lines 10-25.

In the field of thermite reactions, one skilled in the art would recognize that a thermite reaction, that is, a type of aluminothermic reaction, is one in which aluminium metal is oxidized by an oxide of another metal, most commonly iron oxide, and that as a

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result, a great deal of heat is produced, thereby enabling improved heating efficiency at the weld region. See also Iwasa, Column 2, lines 64-67.

In modifying Iwasa by the introduction of DUOCEL aluminum foam, Applicant not only finds no indication of a cost savings as suggested by the Examiner, but submits that there would actually be a cost increase. First, a cost increase would be realized by the cost of the DUOCEL aluminum foam itself. Second, a cost increase would be realized by the need to use twice as much powdery mixture because in the modified Iwasa there would now be two interfaces at the weld joint area (a first interface between the first workpiece and the filler, and a second interface between the filler and the second workpiece). In order for Iwasa to perform as claimed, the two interfaces would each require a deposit of the powdery mixture in order to develop a thermite reaction.

Hence, the Examiner's alleged motivation to combine the references based on a cost savings appears to be exactly opposite to what the actual outcome would likely be.

Accordingly, Applicant submits that there is no motivation to combine the references in the manner suggested by the Examiner and for the reasons suggested by the Examiner, that the prior art fails to teach or suggest the desirability of combining the references, and that the prior art fails to teach or suggest a reasonable expectation of success in modifying or combining the references.

III. Applicant submits that obviousness cannot be supported by a proposed modification that would render the prior art invention being modified unsatisfactory for its intended purpose.

As previously discussed, Claims 1, 14 and 18 include the limitation of the claimed filler material.

As also previously discussed, Iwasa is directed to an invention that employs a powdery mixture as a filler material, the powdery mixture being used to develop a thermite reaction at the joint region.

If it is the Examiner's contention that Iwasa may be modified by replacing the Iwasa powdery mixture filler material with DUOCEL aluminum foam filler material, which may in an off itself result in a cost savings if the DUOCEL aluminum foam filler

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material is less costly than the powdery mixture filler material, then Applicant respectfully submits that the modified Iwasa would be rendered unsatisfactory for its intended purposes.

Since the purpose of Iwasa is to develop a thermite reaction at the weld joint, any modification that removes this attribute is a modification that goes against the teaching and purpose of Iwasa. By removing the Iwasa powdery mixture filler material and replacing it with DUOCEL aluminum foam, the modified Iwasa no longer has the mechanism for developing a thermite reaction.

Accordingly, Applicant submits that the alleged obviousness cannot be supported by the proposed modification since the modification would render Iwasa unsatisfactory for its intended purpose.

Dependent claims inherit all of the limitations of the respective parent claim and any intervening claim.

In view of the foregoing, Applicant submits that the References fail to teach or suggest each and every element of the claimed invention and are therefore wholly inadequate in their teaching of the claimed invention as a whole, fail to motivate one skilled in the art to do what the patent Applicant has done, fail to recognize a problem recognized and solved only by the present invention, fail to offer any reasonable expectation of success in combining the References to perform as the claimed invention performs, and discloses a substantially different invention from the claimed invention, and therefore cannot properly be used to establish a prima facie case of obviousness. Accordingly, Applicant respectfully requests reconsideration and withdrawal of all rejections under 35 U.S.C. § 103(a), which Applicant considers to be traversed.

In light of the foregoing, Applicant respectfully submits that the Examiner's rejections under 35 U.S.C. § 103(a) have been traversed, and that the application is now in condition for allowance. Such action is therefore respectfully requested.

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The Commissioner is hereby authorized to charge any additional fees that may be required for this amendment, or credit any overpayment, to Deposit Account No. 06-1130.

In the event that an extension of time is required, or may be required in addition to that requested in a petition for extension of time, the Commissioner is requested to grant a petition for that extension of time that is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to the above-identified Deposit Account.

Respectfully submitted,

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